

ExiPrep™ 16 Plus

Fully Automated Nucleic Acid Extraction System

USER GUIDE



A-5030



Version 3 (2024-12-31)



For Research Use Only. Not for Use in Diagnostic Procedures.

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Read the entire contents of this User Guide before operating the instrument.

INTENDED PURPOSE

The *ExiPrep*™16 Plus is the instrument capable of extracting nucleic acid needed in various samples as blood, serum, sputum and tissues for the gene amplification test. After sample injection, if only the kit is installed on the instrument and the program is run. It can assist in qualitative or quantitative analysis of specific DNA/RNA in a sample. For research use only. Not for use in diagnostic procedures.

Principle

The *ExiPrep*™16 Plus fully automates nucleic acid extraction using magnetic beads. All *ExiPrep*™ kits contain buffers facilitating the binding of these magnetic beads and nucleic acids. Cartridges also are present with cell lysis buffers. When the samples are dispensed into the cartridges, cells are lysed, releasing their nucleic acids. During the binding step, the free nucleic acids stick to the silica surface of the magnetic beads. The washing buffer removes the impurities, and the final elution step isolates the nucleic acids from the beads providing pure nucleic acids in the storage buffer.

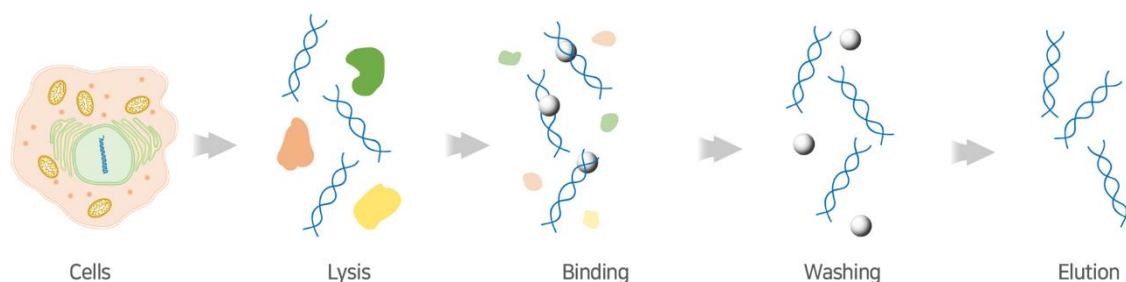


Figure 1. Nucleic acid extraction process

PRODUCT INFORMATION

Product Description

This is an instrument that can automatically extract nucleic acid. It can use several instruments at the same time by using a computer and a router. In the case of nucleic acid extraction, entire process from sample lysis to elution can be done in a short time.

In addition, it can refine fluidly per individual sample unit and has an automated dispensing function to increase efficiency and productivity, saving time and cost. This unit comprises a syringe unit, heating block.

The syringe functions to dispense the various reagents to extract the DNA in order and the heating block doubles the culture of the sample to extract the nucleic acid in a short time. The internal sterilization instrument can eliminate the internal contamination to enhance the stability of the result.

Product Advantages

- High-sensitivity virus screening optimization
- Prevention of contamination
- High purity nucleic acid extraction
- Automatic UV sterilization
- Minimized reagent waste
- Built-in optimized nucleic acid extraction protocol

Product Specifications

Physical Specifications	
Dimensions (W x D x H)	32 cm(W) x 53.5 cm(D) x 48.7 cm(H)
Weight	22 kg
Power (Voltage/Frequency)	Adapter AC Input: 100–240V~, 1.5A, 50/60Hz, DC Output: 24V, 2.7A Instrument DC Input: 24V, 2.7A
Environmental Specifications	
Operation temperature range	15 – 30 °C (59 – 86 °F)
Operation humidity range	20 – 80 %, no condensation
Transport and storage temperature range	5 – 40 °C (41 – 104 °F), in shipping container
Transport and storage humidity range	< 80 %
Operating Specifications	
Operating System	Stand-alone
Networking	TCP/IP
User Interface Display	320 x 240 touch screen graphic LCD
Capacity	Maximum of 16 samples/run
Heating block temperature	40 – 90 °C (104 – 194 °F)

Product Components

The components of the *ExiPrep*™16 Plus package are shown below.

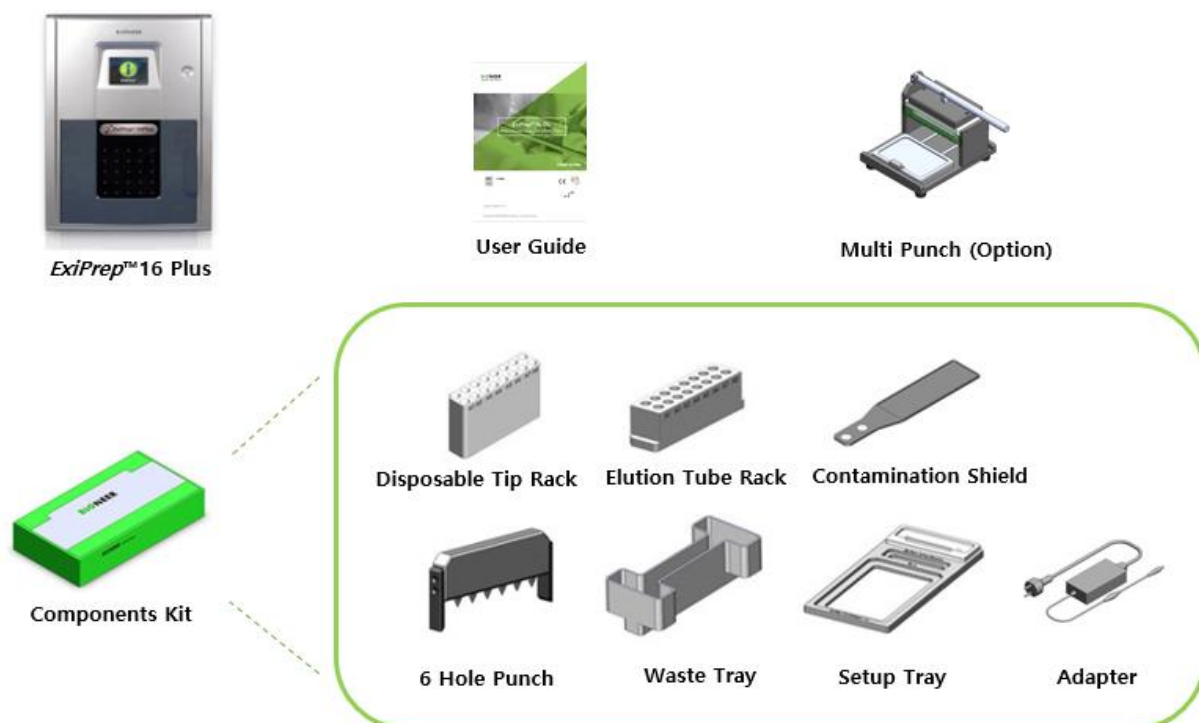


Figure 2. Product components

Table 1. Product components

No.	Components	Cat. No.	Q'ty
1	<i>ExiPrep</i> ™16 Plus	A-5030	1
2	User Guide	–	1
3	Disposable Tip Rack	A-5030-A3	1
4	Elution Tube Rack	A-5030-A4	1
5	Contamination Shield	A-5030-A10	1
6	6 Hole Punch	A-5030-A7	1
7	Waste Tray	A-5030-A6	1
8	Setup Tray	A-5030-A2	1
9	Adaptor	A-5030-A9	1
10	(Option) Multi Punch	A-5030-A1	1

*Tube racks are different in position by each lane, and each rack must mount in conformity with the position shape of the setup tray.

Functional Description – Hardware

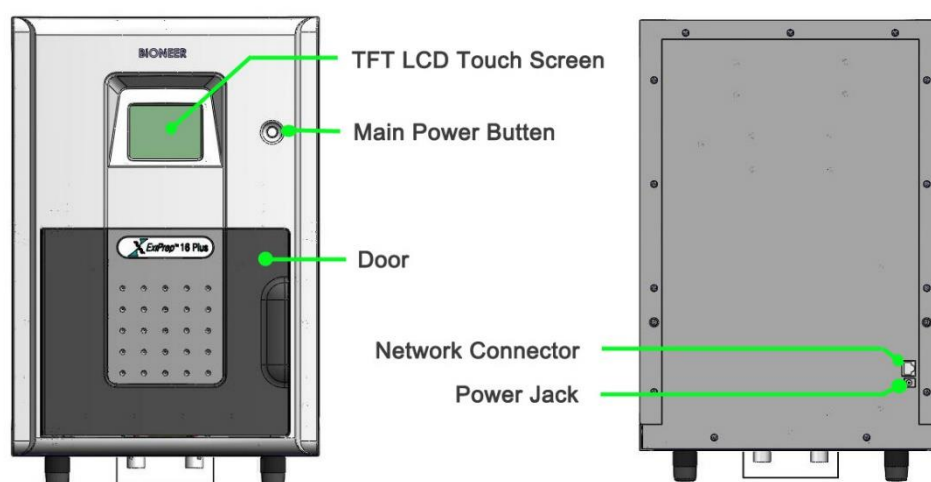


Figure 3. Product View – Front(left), Rear(right)

Table 2. Description of product features

No.	Part Name	Description
1	TFT LCD Touch Screen	Displays user interface
2	Main Power Button	On: Starts or resumes operation from standby mode Off: Initiates the standby mode
3	Door	Provides access to interior of the instrument and ensures that internal components are not accessible when the instrument is in operation
4	Network Connector	Connect between the PC, network hub, and ExiPrep™16 Plus
5	Power Jack	Power to the instrument

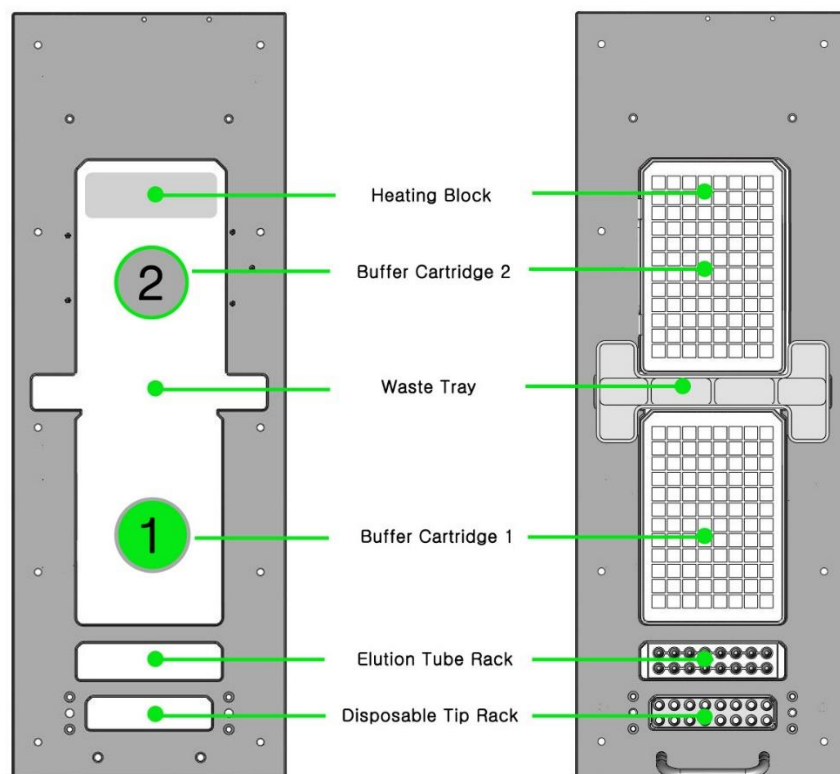


Figure 4. Base plate

Table 3. Description of Base plate

No.	Part Name	Description
1	Heating Block	Location of Heat block
2	Buffer Cartridge 2	Location for placement of Buffer Cartridge 2
3	Waste Tray	Location for placement of Waste Rack
4	Buffer Cartridge 1	Location for placement of Buffer Cartridge 1
5	Elution Tube Rack	Location for placement of Elution Tube Rack
6	Disposable Tip Rack	Location for placement of Disposable Tip Rack

Functional Description – Software

This section describes the functions of each screen displayed by the *ExiPrep*™16 Plus. For additional details on usage, refer to the OPERATION and MAINTENANCE sections of this Guide.

Main menu

- 1) Once the initialization has completed successfully, the LCD touch-screen will display the MENU as shown below.
- 2) Please contact Bioneer Customer Service or your local sales representative if the initialization progress bar does not change for over 5 minutes during initialization or if the MENU screen does not appear after initialization.



Figure 5. Main menu

Table 4. Description of Main menu

No.	Icon	Description
1		DNA/RNA extraction setting menu → Extract nucleic acids with <i>ExiPrep</i> ™16 Plus.
2		UV lamp ON/ OFF selection menu → Sterilize the internal cavity with the built-in UV lamp. Press the 'UV lamp' button to begin sterilization. The sterilization runs for 15 minutes. To cancel, press the 'UV lamp' button again. → <i>ExiPrep</i> ™16 Plus provides an automatic UV sterilization option to run after every DNA/RNA extraction run
3		System setting menu → Set up or cancel the system. You could check out user registration or cancelation, the setup of user restricted menu, password, and system, and history easily.
4		Contamination protection components installation → This icon is to determine the status of the syringe block for setting the contamination shield.
5		Power → This icon is to be pressed when power rebooting the instrument.

PREP SETUP

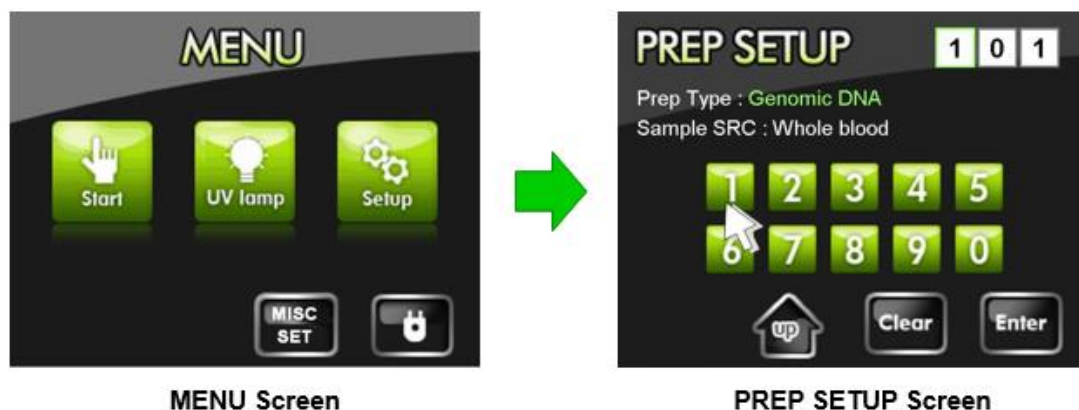


Figure 6. PREP SETUP

- Selecting 'Start' from the Main Menu will bring up the 'PREP SETUP' screen where you can enter the three-digit code for the extraction and sample source type.
- Refer to the Kit User Guide to select the three-digit code applicable to your desired nucleic acid and sample source type.

UV Sterilization

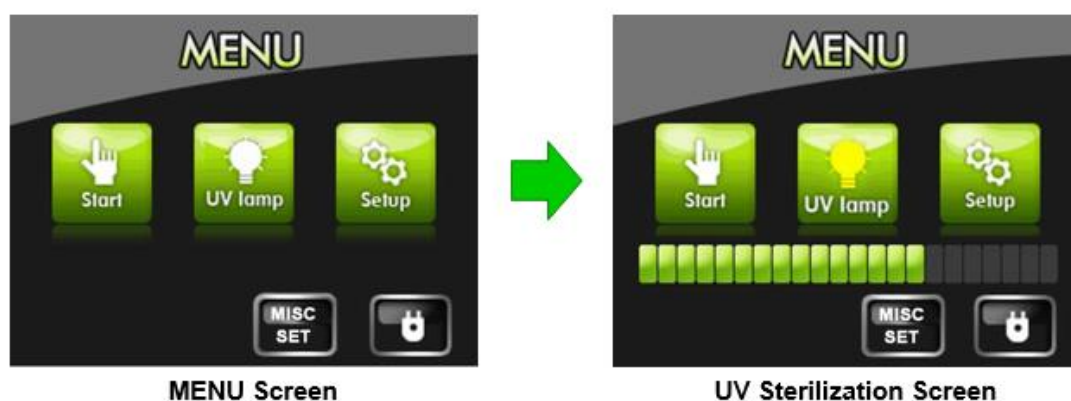


Figure 7. UV sterilization

- Use the built-in UV-lamp to sterilize the internal cavity of the instrument.
- Press the 'UV lamp' icon to initiate the UV sterilization process. The icon will turn yellow as UV sterilization proceeds.
- The sterilization runs for 15 minutes. The progress can be tracked through the progress bar displayed on the bottom portion of the LCD touch-screen. To cancel the sterilization process, press the 'UV lamp' button again.

System SETUP menu

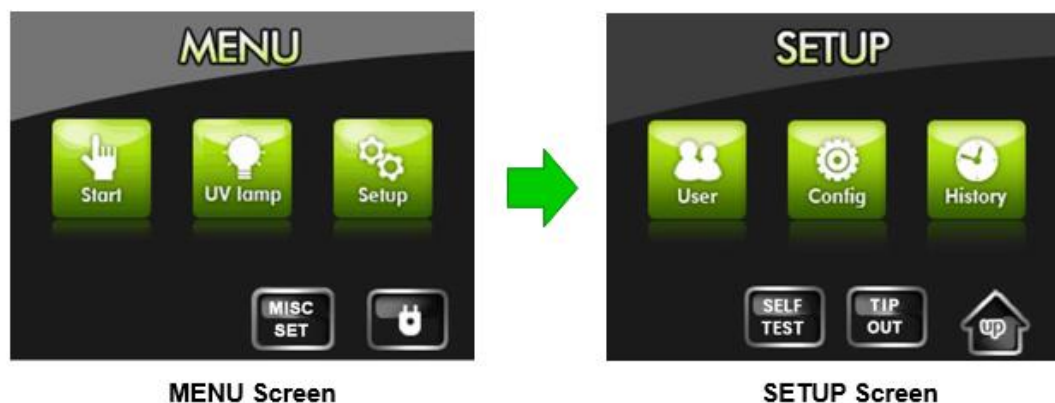


Figure 8. SETUP menu

Table 5. Description of SETUP menu

No.	Icon	Description
1		User registration menu ➤ You may create new accounts through this menu.
2		System configuration menu ➤ Allows you to restrict non-registered users from accessing features such as UV sterilization and system preferences.
3		History ➤ Enabled by selecting the user login option. ➤ Allows you to audit up to 99 most recent runs by displaying information such as user ID, operation record and the instrument status (successful, cancelled) of a particular run.
4		SELF TEST ➤ This icon is for testing each motor initialization and heater block Temperature.
5		TIP OUT ➤ This icon is for removing the Disposable Tips from the instrument Syringe Block. Pressing this icon will release the tips immediately.

Registering a New User

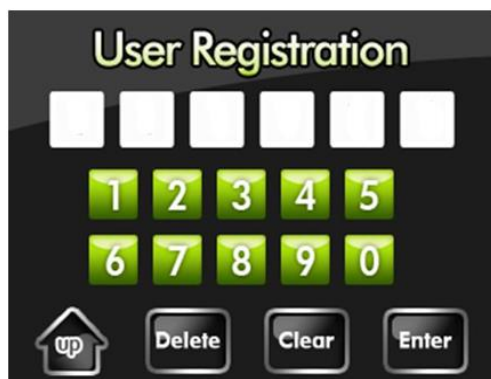
ExiPrep™16 Plus provides a user login option restricting the use of the instrument to registered users only. Enabling the user login option will limit non-user access to the instrument. Do not forget your user ID if you have enabled the user login option.



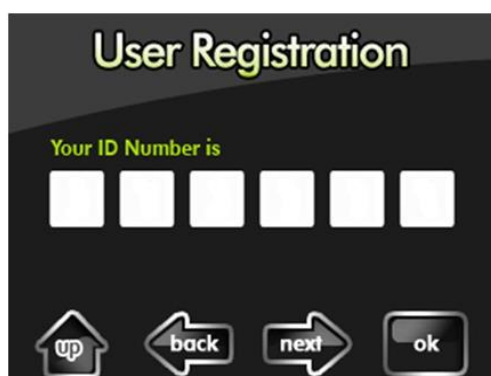
1. Press the '**Setup**' button to access the SETUP menu.



2. Press the '**User**' button to access the User Registration menu.



3. Enter a 6-digit user ID using the keypad on the LCD touch screen and press '**Enter**' to save the ID.
 - **Delete:** Delete last number entered.
 - **Clear:** Delete all numbers entered.
 - **Enter:** Save the numbers entered.



4. Verify the user ID and press '**ok**' to complete the registration.
 - If the login option is enabled, non-registered use will have limited access to the instrument.
 - Do not forget your user ID.

Viewing Run History

If the login option is enabled, the user ID, process type and run status of each run is saved. Up to 99 most recent runs are saved in memory.



1. Press the '**Setup**' button to access the SETUP menu.



2. Press the '**History**' button to view the instrument run history.



3. The run history contains the following parameters
 - **No.:** Indicates the order of use. The most recently used user information is listed at the top.
 - **User ID:** The 6-digit user ID.
 - **Work:** An abbreviation of sample source and protocol type selected for that run.
 - **Status:** Instrument report on whether nucleic acid extraction was successfully completed (OK), stopped during the run (Abort), or cancelled by the user (Canceled).

Managing the Login Mode

The instrument provides a login mode for restricting non-registered use. Without a user ID, you would have limited access to instrument functions. Do not forget your user ID.



1. Press the '**Setup**' button to access the Setup menu.



2. Press the '**Config**' button to access the System Setup menu.



3. Press the '**User**' button to enable login mode.
 - If the login mode is enabled, a popup prompt (**User Mode ON**) appears and the user icon will turn blue.
 - Press the '**User**' button again to disable user login mode. A popup prompt (**User Mode OFF**) appears and the user icon will turn white.

NOTE

If the user ID is entered incorrectly three or more times while the user restriction function is enabled, the system will automatically stop. In this case, press the main power button on the front of the console to restart the system.

Managing the Automatic UV–Sterilization Mode

The instrument provides an automatic UV–Sterilization mode to sterilize the instrument after every DNA/ RNA extraction run.



1. Press the '**Setup**' button to access the SETUP menu.



2. Press the '**Config**' button to access the System Setup menu.



3. Press the '**UV lamp**' button to enable automatic UV sterilization.
 - If automatic UV–sterilization is enabled, a popup prompt (**UV Mode ON**) appears and the UV lamp icon will turn yellow.
 - Press the '**UV lamp**' button again to disable the mode. A popup prompt (**UV Mode OFF**) appears and the UV Lamp icon will turn white.



Configuring the System

Only the one user with a registered administrator ID is able to configure the system. Do not forget the administrator ID.



1. Press the '**Config**' Button from the System Setup menu to access the System Config menu.

CAUTION

Factory (A/S menu): Only authorized service engineers may access this menu to service the instrument.



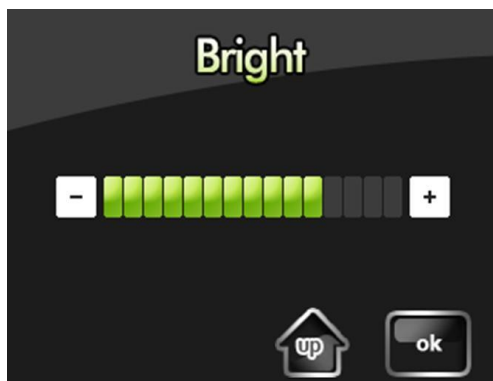
Config Menu

- **Screen**: Calibrates the screen position
- **Bright**: Adjusts the screen brightness
- **Admin**: Manages user IDs as well as administrator ID
- **Factory**: Accessible only by authorized engineers



Screen: Calibrates the screen position

- Calibrate the screen position relative to touching.
- Press and hold the **circle** at the upper left corner with a blunt tool for 2 seconds.
- Press and hold the **circle** at the bottom right corner with a blunt tool for 2 seconds.



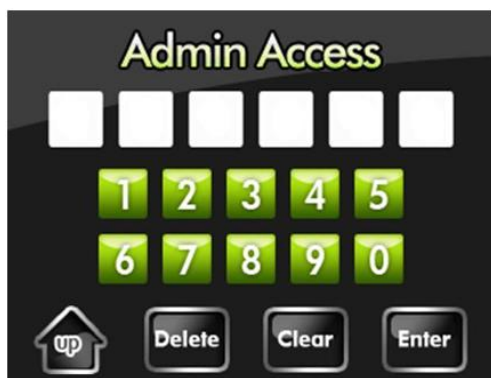
Bright: Screen brightness adjustment

- Adjust the brightness of the LCD touch-screen using the '+' and '-' buttons.
- Press the '**ok**' button to save the adjusted brightness level. The previous menu will be displayed when the new brightness setting is successfully applied.
- To return to the previous menu without saving the adjustments, press the '**up**' button.

Administrator Management



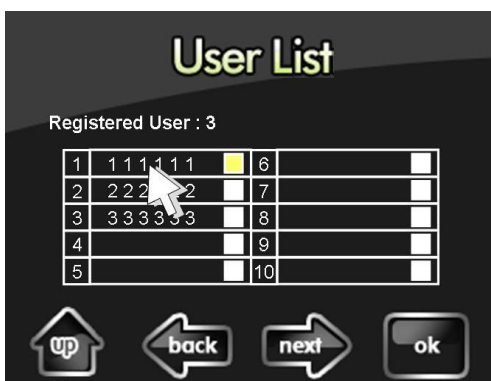
1. Press the '**Admin**' button from the System Config. menu to access the Admin Access menu.



2. Enter the 6-digit administrator ID using the keypad on the LCD touch-screen.
3. Press the '**Enter**' button.



4. The Admin Menu screen includes an option to delete user IDs or change the administrator ID
 - Select '**User list delete (1)**' to delete unused IDs.
 - Select '**Administrator password change (2)**' to change the factory default administrator ID.



User list delete menu (User List)

- Registered User: Displays the number of registered users.
- Select the user ID you wish to delete and press '**ok**' to confirm deletion.
- Use the '**back**' or '**next**' buttons to navigate the pages.



Administrator ID change menu

- Enter a new 6-digit administrator ID using the keypad in the middle of LCD touch-screen and press 'Enter' button to save.



- Press the 'ok' button to save new administrator ID after verifying the new administrator ID.
- You may now use the new administrator ID to delete user IDs or setup and configure the system.
- Do not forget new administrator ID.

WARNINGS AND PRECAUTIONS

Before use, please read the warnings and precautions for safety to ensure proper use. The precautions indicated here contain important information regarding safety and must be observed as they are intended to prevent accidents or danger by using the product safely and correctly. In this user guide, the degree of danger in the event of mishandling is classified into the following three grades. “Warnings and Precautions for Safety” are classified into seven categories: “Danger”, “Warning”, “Caution”, “Electrical Hazard”, and “High Temperature Warning”, and their meanings are as follows.



Ignoring this sign and mishandling the instrument may cause death or serious injury.



Ignoring this sign and mishandling the instrument may cause death or serious injury due to an electric shock.



Ignoring this sign and mishandling the instrument may cause the possibility of death or serious injury.



Ignoring this sign and mishandling can result in death or serious injury due to high temperatures.



Ignoring this sign and mishandling may result in death or serious injury due to fire.



Ignoring this sign and mishandling the instrument may cause personal injury or property damage.



Ignoring this sign and mishandling can result in biohazard exposure and lead to infection

Use and Care

Operation environment precautions



- 1) If the power plug is loose, do not use the instrument. Plug overheating may result in shock or fire.
- 2) Do not operate multiple instruments out of a single wall outlet. The load may cause overheating and may lead to fire.
- 3) When plugging or unplugging the power adapter cord from a wall outlet, make sure your hands are completely dry. Wet or moist hands may cause electric shock.
- 4) Avoid placing objects in the front and rear of the instrument.
- 5) When installing the instrument, make sure at least 10 cm separate the instrument from the nearest wall.
- 6) Avoid installing the instrument in a dusty environment. Excessive dust may cause malfunction or damage to the instrument.
- 7) Avoid installation near heat sources. This can cause fire.
- 8) Avoid installation near sources of water or damp locations. This can cause electrical shock, fire or instrument malfunction.
- 9) Do not install near sources of flammable or corrosive gas. If there is a gas leak, do not touch the power plug but open a window to circulate fresh air. Sparks from the power plug can cause fire and explosions.
- 10) Do not disassemble or modify the instrument in any way. This can result in fire, electrical shock or malfunction, and also voids your warranty.

Instrument installation precautions



- 1) This is a precision instrument. Do not install in a location exposed to direct sunlight.
- 2) Install the instrument on a flat, solid surface that is flat and does not move.

Instrument operation precautions



- 1) Dust off the power plug and insert the plug so that the connection is firm and does not wiggle. Incomplete electrical contacts may cause fire.
- 2) Operate the instrument in an ambient temperature range of 15°C~30°C. Excessive exposure to heat may affect the instrument and yield inexact results.
- 3) Operate the instrument within the recommended humidity range (20~80%, no condensation). Humid conditions may cause corrosion or malfunction.
- 4) The instrument automatically turns off the UV lamp and its operation when the instrument's door is open. However, just in case it does NOT turn off when the door is open, please make sure the UV light does not directly expose to your eyes and skin.
- 5) Do not place any objects next to or behind the instrument. The instrument may malfunction.
- 6) This instrument contains precision machined parts. Do not drop or severely agitate the instrument. This can break the instrument and compromise the safety of the product.
- 7) When not using the instrument for a long period of time, turn the instrument off and unplug from the wall outlet. Overheating and fire may occur.

Usage and maintenance precautions



- 1) This product must only be used for nucleic acid extraction and automatic aliquot. Do not use the instrument for any use other than explicitly stated in the User Guide.
- 2) Do not modify or delete instrument-related information installed within the instrument.
- 3) Operate the LCD touch-screen using a non-sharp object. Nails and other sharp objects may damage the product.
- 4) The instrument UV lamp will only operate if the door is completely shut. Make sure the door sensor is free of foreign materials or obstructions.
- 5) Do not use powerful detergents or solvents to clean the outside of the instrument as this may cause discoloration. If such chemicals are spilled on the instrument, immediately clean with a soft cloth.
- 6) Do not keep the instrument in an environment with high humidity. Damage from storage in these conditions is classified as water damage and is not covered by warranty. Also, damage arising from this type of exposure may be irreparable.
- 7) Disassembly and/or modification of the instrument voids the warranty and may be refused service.
- 8) Do not unplug the power adapter from the instrument while the instrument is in use. This may cause the instrument to break.
- 9) If a burning smell is detected or the instrument seems to be excessively hot during operation, immediately stop using the instrument and call your service representative.
- 10) Do not drop or impact the instrument. This is a direct cause of instrument damage and may void the warranty.
- 11) Always verify that the Heating Block is in normal position before pulling out the Base plate. If the Base plate is pulled out while the Heating Block is not in its normal, initialized position, the interference in movement can cause Heating Block and other internal component damage and lead to instrument malfunction. Since installed Buffer Cartridges obscure the view, re-initialize the instrument or take out the Buffer Cartridges and visually inspect the position of the Heating Block before pulling out the base plate.
- 12) The instrument automatically turns off the UV lamp and its operation when the instrument's door is open. However, just in case it does NOT turn off when the door is open, please make sure the UV light does not directly expose to your eyes and skin.

User and experimental precautions



- 1) Make sure that the power supply (100~240VAC, ~50/60Hz) is correctly connected to the power

adapter and that the power adapter is correctly connected to the instrument. Incorrect connection of the power adapter and power supply can result in instrument damage or failure to turn on.

- 2) This instrument is intended for nucleic acid extraction, use it according to its intended purpose.
- 3) This product automatically disables the sterilization lamp when the door is opened during operation. However, for safety reasons, please ensure that your eyes or skin are not directly exposed to the sterilization lamp while it is in operation.
- 4) The instrument may stop if the LCD panel is touched while connected to a PC via LAN cable. If operating the instrument via PC software, please allow for the instrument to finish its programmed movement before operating the LCD panel.
- 5) Please install the instrument on a flat surface.
- 6) Do not operate the instrument with wet hands as this may result in shock or instrument malfunction. Please touch the power adapter cord with dry hands.
- 7) If the instrument is stopped either from operator error including improper Components insertion or manually halting the instrument during normal operation, you must re-initialize the instrument before pulling out the Base plate. Pulling out the Base plate without prior initialization can lead to instrument damage from movement interferences including a raised Heating Block or other components stopped in motion. If Buffer Cartridges are inserted into the Base plate, please re-initialize the instrument or pull out the Buffer Cartridges to make sure the Heating Block is not in the way of normal Base plate movement.
- 8) When installing Cartridge ②, ensure that it is mounted so that it is in complete contact with the heat transfer block located at the mounting position on the base plate. If it is not fully adhered, the cartridge may fail to make contact with the heating block, which could result in a decline in extraction performance.
- 9) When removing Cartridge ② from the base plate, first remove the waste tray. Then, hold Cartridge ② with your hand and gently pull it upward to separate it from the heat transfer block on the base plate. Pulling too forcefully may cause damage to the equipment or result in injury.
- 10) When there is liquid in the Waste Tray in the equipment, take extra caution to push-in or pull-out the base plate so the liquid does NOT overflow to the instrument inside. If the liquid overflows inside the instrument, it may damage the instrument or cause the electrocution.
- 11) When installing the contamination shield, ensure that there are no components on the base plate. Failure to do so may result in improper installation or misalignment of the contamination shield, potentially causing malfunctions and affecting experimental results.

UV Lamp Precautions



- 1) Do not expose your eyes and skin to the UV light. The instrument is programmed to turn off the UV lamp when the door is opened, but exposure of your eyes or skin to the UV light can cause serious damage.
- 2) Ensure no foreign matter interferes with door closure or the door sensor.
- 3) The instrument is programmed to run 15 minutes of sterilization for user safety.

Liquid Waste Precautions



- 1) Pay special attention to avoid spilling liquids when handling cartridges. The solutions in the nucleic acid extraction kit contain chloride compounds that can corrode metal if spills are left unattended for long periods.
- 2) If liquid waste is spilled inside the instrument, the instrument must be disassembled and cleaned to eliminate contamination and ensure normal instrument operation. Contact BIONEER Technical Support for service.
- 3) Wear appropriate eyewear, clothing, and gloves when handling reagent and waste tray.

Cleaning Precautions



- 1) Wipe the surface with lint-free cloth dampened with 1% bleach. Remove excess bleach with a clean, lint-free cloth dampened with water. Wipe again with another clean lint-free cloth dampened with 70% ethanol.
- 2) Do not spray cleaning solutions directly on the instrument. Bleach may corrode metals.
- 3) Do not use bleach with other chemicals. It may produce toxic fumes.

Storage and Maintenance Precautions

- 1) Do not store the instrument in a humid place. Instrument breakdown due to humidity classifies as “break down due to immersion” and is not covered by the warranty.
- 2) Do not modify or disassemble the instrument other than as directed in this User Guide as this may void the warranty.

INSTALLATION

This instrument is designed for indoor use and must meet the following standards with adequate installation space. Unpacking and installation are all available only by our engineers or agency staff trained in this company.

Necessary items

A box cutter, scissors, gloves, etc.

Checklist upon delivery

Upon receiving the instrument, please check the following.

- Product label: The labels must be intact and allow identification of the product (product name, cat. No., etc.).
- Packing condition: The packaging must not be damaged to such an extent that it affects the product inside the packaging.
- Components: Components are included by checking the list in the user guide.

If there are any abnormalities with the items mentioned above, contact BIONEER Customer Service with a detailed description of the issue.

Checking the installation requirements

Before installing the instrument, ensure that the following conditions are met:

- Instrument must be installed at room temperature. In the case of overseas delivery, it is installed after 24 hours after opening the packaging box.
- Keep the instrument out of direct sunlight.
- Install the instrument in a location with a temperature between 15 °C and 30 °C, and a humidity between 20 % and 80 % (non-condensing).
- Do not install the instrument in a dusty area or close to fire hazards such as electric heaters.
- Keep the instrument away from splashing water or high humidity areas.
- Do not install the instrument in locations where inflammable or corrosive gases are generated.
- Place the instrument on a flat, stable surface that can support its weight.
- Leave at least 10 cm of clearance between the instrument and the wall.
- Find an area where you can comfortably hold the instrument.
- Get into a comfortable position to avoid undue back strain.
- Bend your knees and use your legs to lift the instrument.
- While holding the instrument, do not twist your body or perform other tasks.
- Always use two or more people to move the instrument.
- Wear protective equipment as needed.
- Check out *ExiPrep™16 Plus* components.

CAUTION

If the instrument is damaged, take pictures of the damaged part and state, the damaged part, and contact this company or our distributor to get proper action.

Unpacking

Follow the instructions below to safely unpack the instrument.

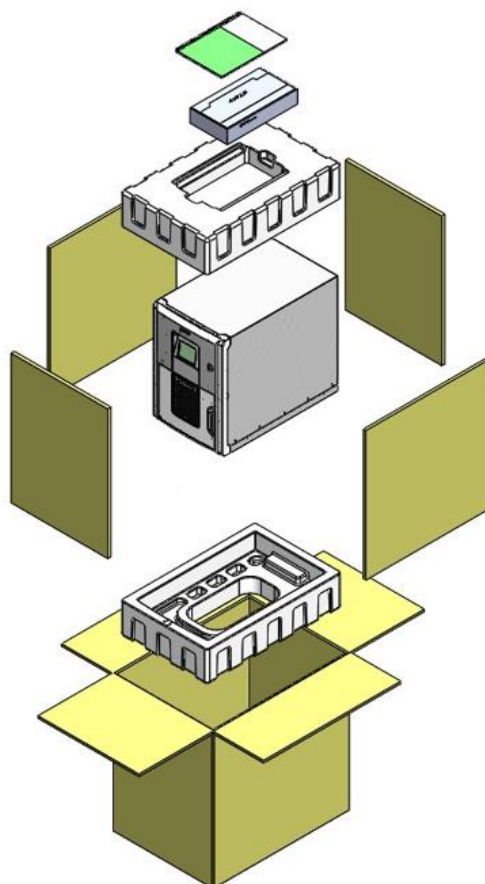


Figure 9. Exploded view of the packing box

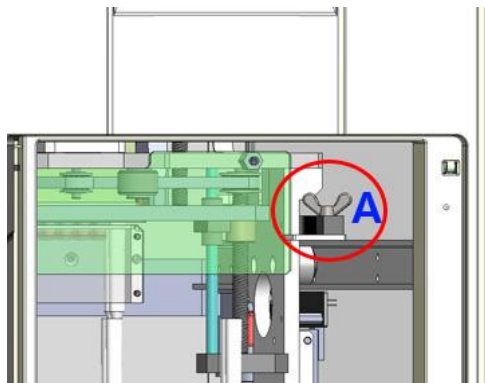
1. Use scissors to cut the straps on the packaging.
2. Cut the tape securing the top flaps of the instrument crate, then open the flaps.
3. Remove the *ExiPrep*™16 Plus Components kit from the instrument and set them aside.
4. Carefully lift the instrument onto the bench.
5. Remove the packing material from the *ExiPrep*™16 Plus, then inspect the instrument for shipping damage.

CAUTION

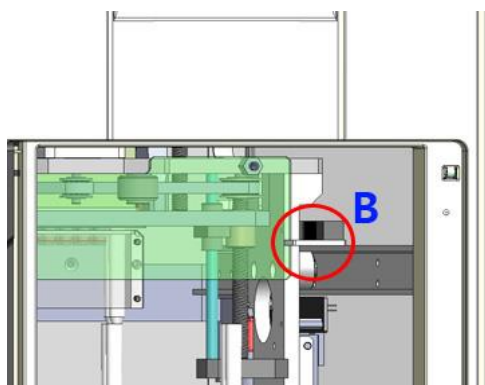
- Find an area where you can comfortably hold the instrument.
- Get into a comfortable position to avoid undue back strain.
- Bend your knees and use your legs to lift the instrument.
- While holding the instrument, do not twist your body or perform other tasks.
- Wear protective equipment as needed.

Removing the Transportation Lock

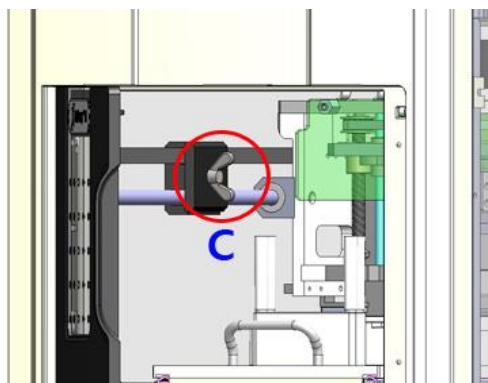
A transportation lock installed in the instrument to prevent the components from moving during shipping. The lock must be removed before instrument operation to prevent damage.



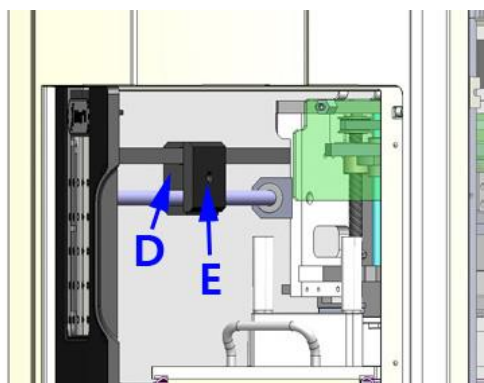
1. Open the door and remove the **Screw (A)** from the rail.



2. Remove the **Holding plate (B)** from the rail and the Syringe Block.

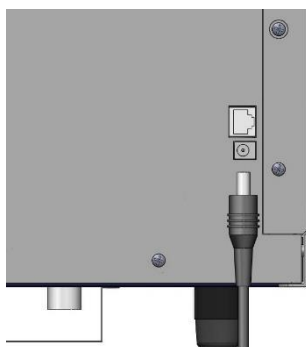


3. Remove the **Screw (C)** from the locking block which immobilizes the belt.



4. Separate the **Holding block (D, E)** from the belt and remove it.

Power ON



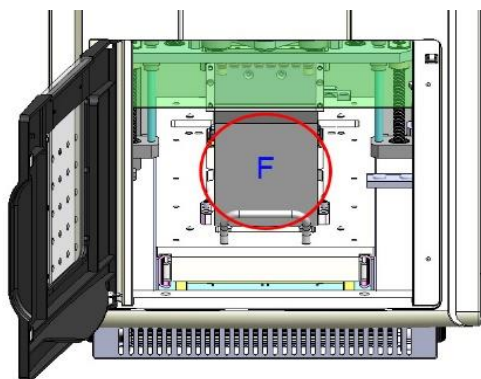
1. Connect the power cable to the rear of the instrument.



2. Turn on the instrument. A power button will display on the LCD touch screen to indicate normal power on.



3. Press the power button on the LCD screen to initialize the instrument. A progress bar on the lower portion of the LCD touch-screen will indicate initialization progress.



4. Open the door and remove the **Sponge block (F)** from the Base plate after initialization.

※ If the instrument does not start even when power was supplied properly but initialization does not complete in approximately 5 minutes, please contact Customer Service or your local Bioneer distributor immediately.

Installation Check

After installation, a trained technician must:

- 1) Ensure the transportation lock has been removed
- 2) Press the Power button for 1 second to turn on the instrument and ensure the instrument initializes without any problems.
- 3) Ensure the LCD screen is illuminated.
- 4) Ensure the touchscreen functions properly.

If there are any abnormalities with the items mentioned above, contact BIONEER Customer Support with a detailed description of the issue.

OPERATION

This section describes how to operate *ExiPrep*™16 Plus. Once the operation is initiated, the instrument will perform every step needed for nucleic acid extraction, from cell lysis to elution.

⚠ CAUTION

Do not manually move internal instrument components when the instrument is on. It will damage the instrument, and it may void the warranty.

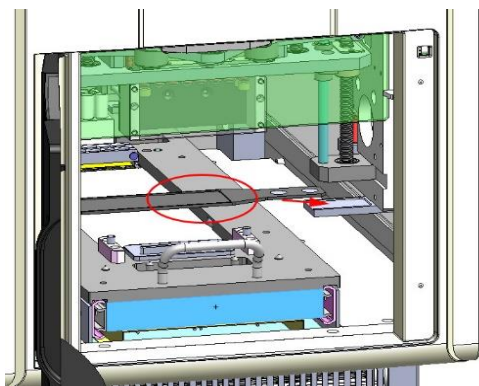
Contamination Shield installation

⚠ CAUTION

This process must be performed before components are installed on the base plate. Otherwise, malfunction of the instrument may result in failure.



1. From the 'Menu' screen, click 'MISC SET'.
 - Pull out the Syringe block all the way front (outside) Contamination shield.



2. Place the contamination shield on the lower-right side of the Syringe block.
 - Contamination shield has a magnet which means if you place on the upside-down right, it will stick to the holding bar.

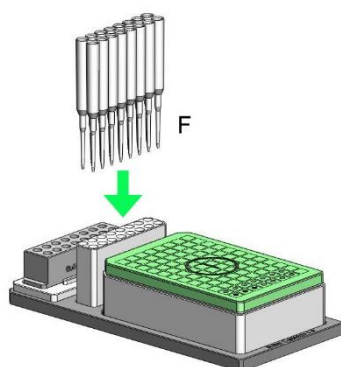
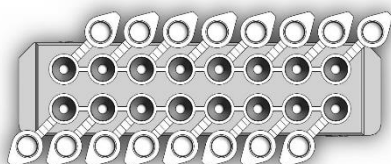
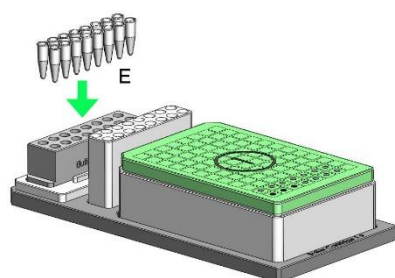
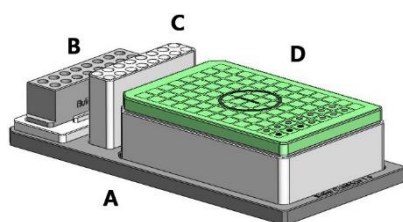


3. From the 'Menu' screen, click 'MISC SET'. The base plate moves back to the initialization position (inside the instrument).

Sample Preparation

CAUTION

Before making holes in Buffer Cartridges ① and ② using a hole punch, shake well from side to side to ensure that each reagent and bead are located at the bottom of the plate.

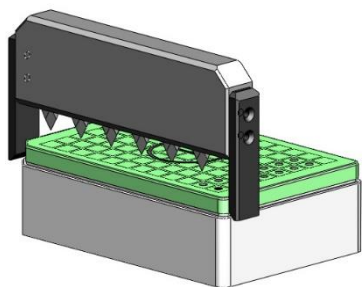


1. Set the **Setup Tray (A)** on a flat laboratory surface.
2. Insert the **Elution Tube Rack (B)**, **Disposable Tip Rack (C)**, and **Buffer Cartridge ① (D)** into the Setup Tray.
 - The Elution Tube Rack and Disposable Tip Rack are included with the instrument. The Buffer Cartridges, Disposable Tips and Elution Tubes necessary for DNA/RNA extraction are included in the DNA/RNA extraction kits (sold separately).
3. Make sure you have purchased the correct kit for the sample type and target nucleic acid type you desire. Insert the desired number of **Elution tubes (E)** into the Elution Tube Rack.

※ Make sure the direction of the Elution Tube caps are laid out as on the left when inserting into the Elution Tube Rack.

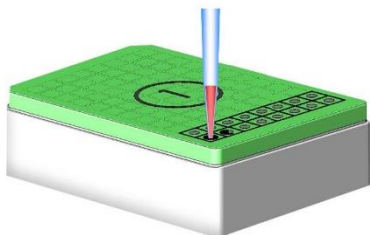
- Each Elution tube is labeled individually from A1~H1, A2~H2 to A12~H12 for a total of 96.

4. Insert the **Disposable Tips (F)** into the Disposable tip rack in the same quantity and relative position as the Elution tubes.

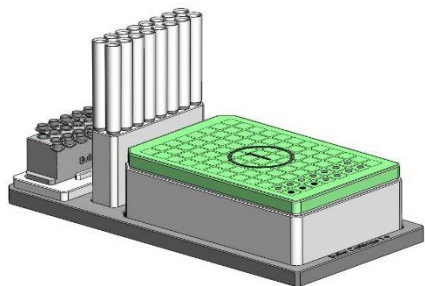


5. Punch holes in the sealing film of Buffer Cartridge ① corresponding to the relative location and number of tubes and tips, using the **6-Hole punch** tool.

6. Punch holes in sealing the film of Buffer Cartridge ② using the **6 Hole punch** tool in the same pattern as Buffer Cartridge ①.

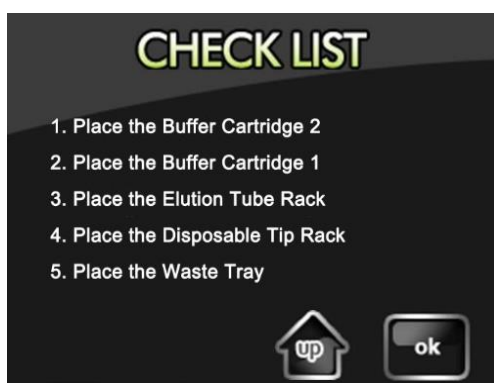
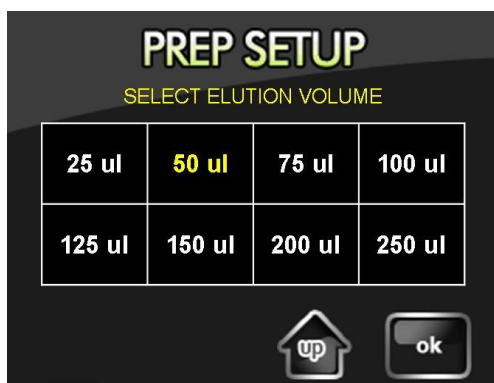
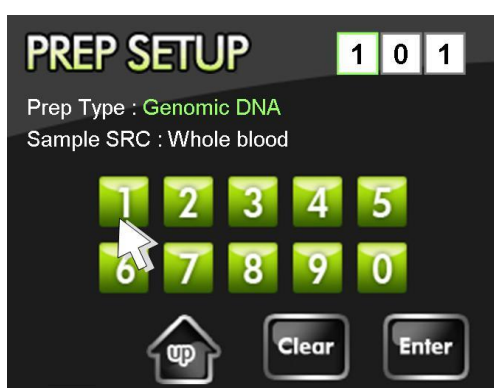
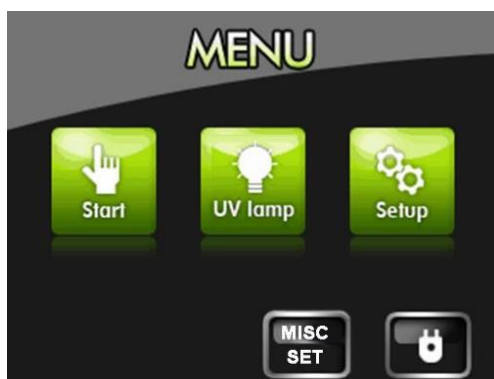


7. Load samples into the 'Sample Loading Well' of Buffer Cartridge ①.



8. Preparation for DNA/RNA extraction is complete.

Run



1. Press the '**START**' button to access the PREP SETUP screen.

2. Refer to the code list within this User Guide or purchased Kit User Guide to select the three-digit code applicable to your desired nucleic acid and sample source type.

3. Verify the '**Prep Type**' and '**Sample SRC**' of the three-digit code you have entered.

4. Press the '**Enter**' button to access the '**elution volume**' selection menu.

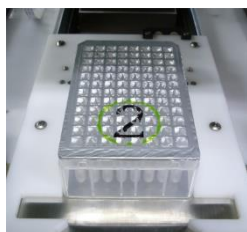
5. Select the '**elution volume**' from the LCD touch-screen.

6. After selecting the desired '**elution volume**' press '**ok**' to complete PREP SETUP.

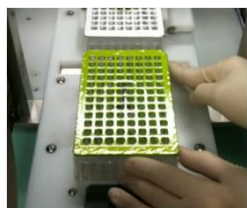
7. Open the instrument door and pull out the Base plate.

8. Place all racks and Buffer Cartridges in their respective locations on the Base plate according to the **CHECK LIST** on the LCD touch-screen.

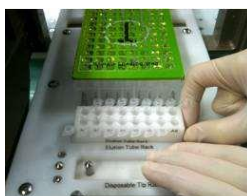
Setup process according to the CHECK LIST



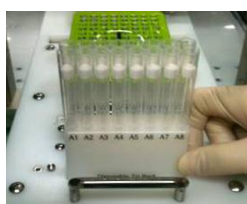
- 1) Insert Buffer Cartridge ② on the Base plate.
 - Make sure the Buffer Cartridge fits snugly and exactly into its place. Misplacement of the Buffer Cartridge may result in instrument break down and malfunction.



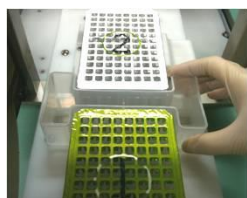
- 2) Insert Buffer Cartridge ① on the Base plate.
 - Make sure the Buffer Cartridge fits snugly and exactly into its place. Misplacement of the Buffer Cartridge may result in instrument break down and malfunction.



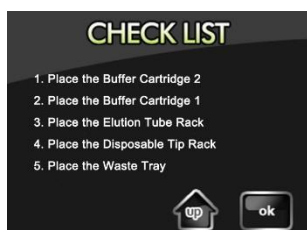
- 3) Place the Elution tube rack on the Base plate.
 - Make sure the direction and location of the Elution tube rack is correct.



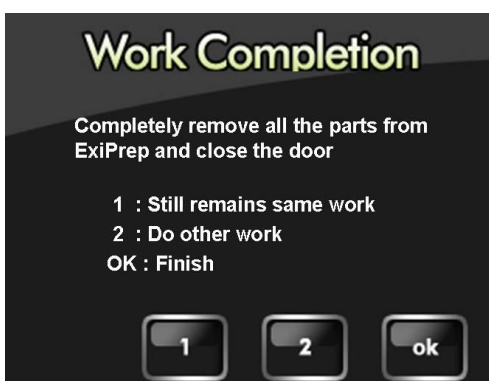
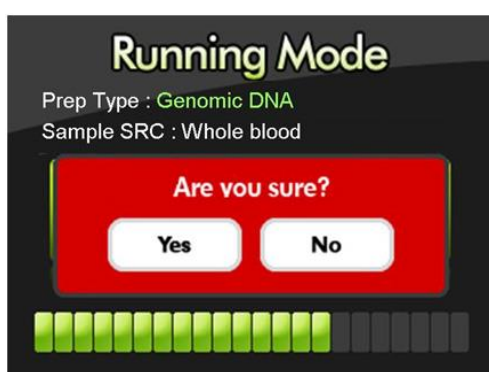
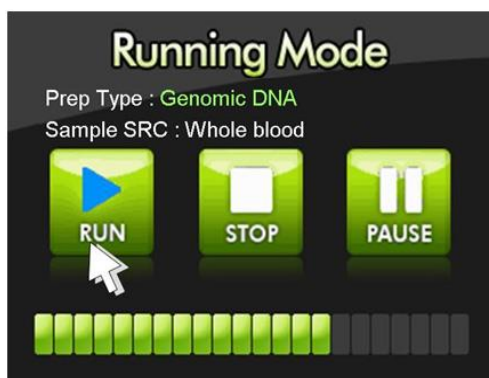
- 4) Place the Disposable tip rack on the Base plate.
 - Make sure the direction and location of the Disposable tip rack is correct.



- 5) Place the Waste tray into the gap between Buffer Cartridges ① and ②.



- 6) Push the Base plate in completely and close the door.
 - Press the 'ok' button to complete.



9. Verify the name of the target nucleic acid type and sample source type on the Running Mode screen, and press the 'RUN' button.
 - Progress of the extraction run can be checked through the progress bar on the lower portion of the LCD touch-screen.
10. You may press the 'STOP' button during the run to terminate the extraction.
 - If you press 'STOP' during an extraction run, a popup prompt asking you whether you are sure ('Are you sure?') will appear. Select 'Yes' to terminate the run, or 'No' to cancel the stop and proceed with the extraction run.
 - You may select 'PAUSE' to temporarily stop the run and 'RUN' to resume.
11. After the extraction run is complete, pull out the Base plate and remove the Elution tubes, Buffer Cartridges and all racks from the Base plate. After removing all components, push the Base plate back in completely and close the door.
12. You are given three options at this point:
 - **Still remains same work:** Repeat the current protocol.
 - **Do other work:** Perform an extraction run using a different protocol for another nucleic acid and sample source type.
 - **Finish:** Finish and exit.
13. If the automatic UV-sterilization option is enabled, a popup prompt will appear warning you not to open the door as UV-sterilization is in progress.
14. Press the 'START' button to initiate sterilization
 - Select 'SKIP' if you wish to pass sterilization.
15. The sterilization process takes 15 minutes. Progress can be checked through the progress bar.

※ Upon completion of the extraction run, immediately close the Elution tube caps to prevent spillage and label the tubes to avoid confusion later on.

MAINTENANCE

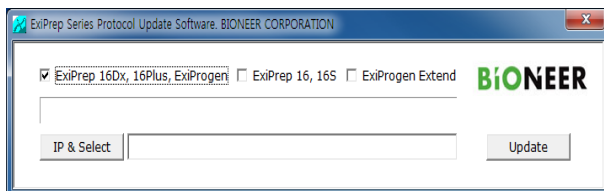
Updating software

- Updating software may improve instrument functionality and install up-to-date protocols for nucleic acid extraction.
- Please refer to the FAQ in our homepage or contact Bioneer Service Center if updating does not progress as described below or you have questions.

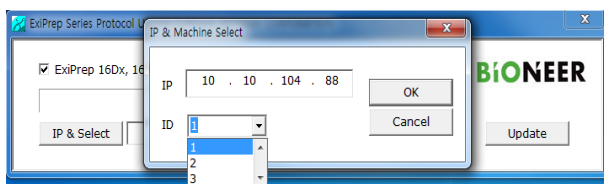
NOTE

This program NOT included with the instrument. If you want to the program, you have to request to us.

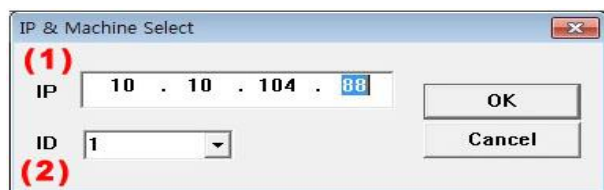
- Connect *ExiPrep*TM16 Plus to your computer using Cross-type LAN cable(sold separately).
- Start the installation of the downloaded program below.
- The IP address and network hub LAN port settings may change depending on the installation site and PC.



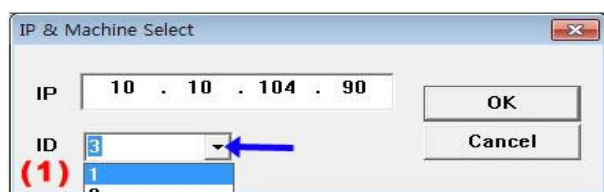
1. Execute the program.
2. Select the instrument type (*ExiPrep*TM16 Plus) to update the protocol on top of the window.



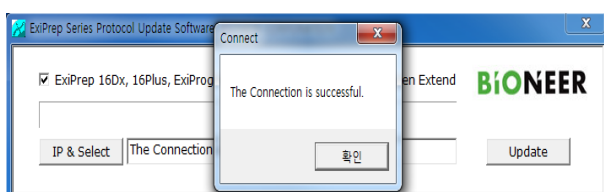
3. When you click the 'IP & Select' button at the bottom left, a new window 'IP & Machine Select' appear with two boxes: IP and ID.



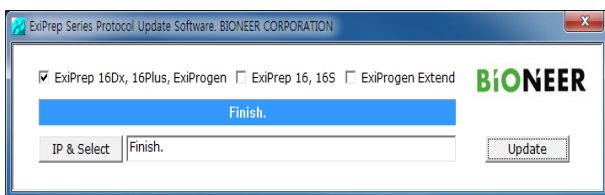
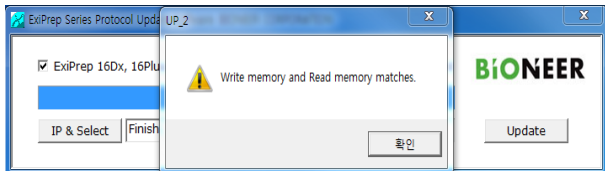
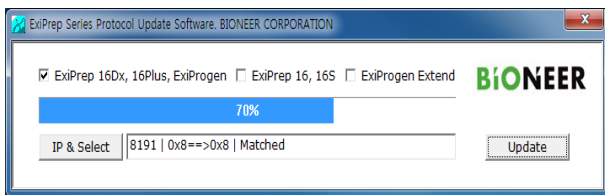
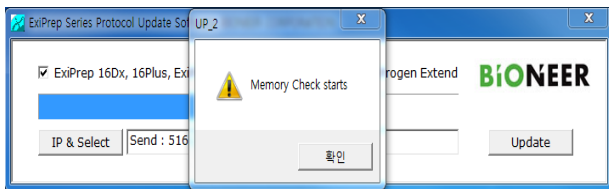
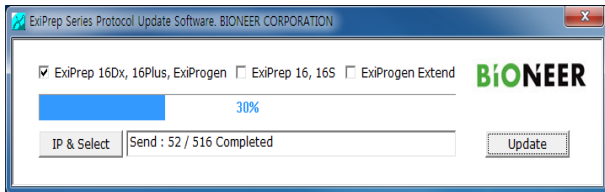
4. There are two ways of connecting to the instrument network.
 - Directly enter the IP address into the IP box (1) and select the instrument ID (2). For example, if the IP address is '10.10.104.88', select ID '1' and click 'OK'.



5. Clicking on the small down arrow (blue arrow) will enable you to select several instrument IDs with corresponding IP addresses. Click 'OK' to finish connecting to the instrument.

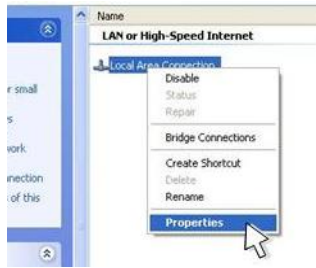


6. If the connection succeeds, the 'Connect Succeeded' prompt will be displayed.



7. If the connection fails, the 'connect fail' prompt will be displayed. In this case, reboot the instrument and network hub, and verify that the network cable is connected correctly. Also verify the PC network settings including the IP address.
8. After the connection is completed, click the 'Update' button on the right side. Wait until the progress bar is full.
 - If the connection stops progressing, restart the update process from step 1.
9. Once the connection process is done, 'Memory Check starts' window will pop up and click 'OK'.
 - If the connection stops progressing, restart the update process from step 1.
10. Once 'Memory Check' starts, the progress status bar will be displayed.
11. When the Memory Check finishes the progress, 'Write and Read memory check results to matches' window will pop up, press 'OK' button.
12. If you get the 'Finish' message on the progress bar, all the update process.
13. Disconnect the LAN cable from the computer and the instrument.
14. Reboot the instrument and reconnect the LAN cable.

※ If the PC fails to connect to the instrument, try the following steps.



1. Select '**Local Area Connection**' from the control panel.
2. Right-click the connection and select '**Properties**'.



3. Select '**Internet Protocol (TCP/IP)**'.



4. Select '**Use the following IP address**'.



5. Enter the **IP address**, **subnet mask**, **Default gateway** and **DNS server address** information below:
 IP address: 10. 10. 104. 38
 Subnet mask: 255. 255. 192. 0
 Default gateway: 10. 10. 100. 1
 Preferred DNS server: 10. 10. 111. 3
 (Alternate DNS server: 10. 10. 111. 4)
6. Click the '**OK**' button commit the network changes.

Moving of the instrument

When moving the instrument to another location, do not move it arbitrarily, contact our technical support department or your distributor.

1. Remove all cartridges and contamination shield.
2. Disconnect the power cable.
3. Install the transportation lock. Refer to the INSTALLATION section of this User Guide for additional information regarding the transportation lock. Close the door of the instrument.
4. Using proper lifting technique, have at least 2 people to lift the instrument and place it on a cart if one is available.
5. Move the instrument to the new location.
6. Remove the transportation lock.
7. Reconnect the power cable.

Storage Condition

1. Temperature: 5–40°C (41 –104°F)
2. Humidity: 20–80% (non-condensed)

Storing the instrument

1. When the instrument is not in use, store it according to the precautions specified in the User Guide.
2. It must be stored following all of the storage conditions specified above.

Instrument Disposal

BIONEER only accepts decontaminated instruments for safety reasons. After decontaminating the instrument, complete the “Certificate of Decontamination” and contact BIONEER Technical Support for return information.

DNA/RNA Extraction Program Number List

No.	Target	Sample source
1 01	Genomic DNA	Whole blood
1 02	Genomic DNA	Animal tissue
1 03	Genomic DNA	FFPE tissue
1 04	Genomic DNA	Plant tissue
1 05	Genomic DNA	Plant seed
1 06	Genomic DNA	Rice
1 07	Genomic DNA	Cultured cell
1 08	Genomic DNA	Gram (+) bacteria
1 09	Genomic DNA	Gram (-) bacteria
1 10	Genomic DNA	Yeast
1 11	Genomic DNA	Fungi
1 12	Genomic DNA	Plasma
1 13	Genomic DNA	Serum
1 14	Genomic DNA	Buffy coat
1 15	Genomic DNA	Sputum
1 16	Genomic DNA	BAL
1 17	Genomic DNA	Saliva
1 18	Genomic DNA	Swab
1 19	Genomic DNA	Urine
1 20	Genomic DNA	Stool
1 21	Genomic DNA	Cell free body fluid
1 22	Genomic DNA	Pleural fluid
1 23	Genomic DNA	CSF
1 24	Genomic DNA	EPS
1 25	Genomic DNA	Respiratory sample
1 26	Genomic DNA	Amniotic fluid
1 27	Genomic DNA	Forensic sample
1 28	Genomic DNA	Bone marrow
1 29	Genomic DNA	Bone
1 30	Genomic DNA	Dried blood spot
1 31	Genomic DNA	Soil
1 32	Genomic DNA	Hair
1 33	Genomic DNA	Cell supernatant

No.	Target	Sample source
2 01	Total RNA	Whole blood
2 02	Total RNA	Animal tissue
2 03	Total RNA	FFPE tissue
2 04	Total RNA	Plant tissue
2 05	Total RNA	Plant seed
2 06	Total RNA	Rice
2 07	Total RNA	Cultured cell
2 08	Total RNA	Gram (+) bacteria
2 09	Total RNA	Gram (-) bacteria
2 10	Total RNA	Yeast
2 11	Total RNA	Fungi
2 12	Total RNA	Plasma
2 13	Total RNA	Serum
2 14	Total RNA	Buffy coat
2 15	Total RNA	Sputum
2 16	Total RNA	BAL
2 17	Total RNA	Saliva
2 18	Total RNA	Swab
2 19	Total RNA	Urine
2 20	Total RNA	Stool
2 21	Total RNA	Cell free body fluid
2 22	Total RNA	Pleural fluid
2 23	Total RNA	CSF
2 24	Total RNA	EPS
2 25	Total RNA	Respiratory sample
2 26	Total RNA	Amniotic fluid
2 27	Total RNA	Forensic sample
2 28	Total RNA	Bone marrow
2 29	Total RNA	Bone
2 30	Total RNA	Dried blood spot
2 31	Total RNA	Soil
2 32	Total RNA	Hair
2 33	Total RNA	Cell supernatant

No.	Target	Sample source
3 01	mRNA	Whole blood
3 02	mRNA	Animal tissue
3 03	mRNA	FFPE tissue
3 04	mRNA	Plant tissue
3 05	mRNA	Plant seed
3 06	mRNA	Rice
3 07	mRNA	Cultured cell
3 08	mRNA	Gram (+) bacteria
3 09	mRNA	Gram (-) bacteria
3 10	mRNA	Yeast
3 11	mRNA	Fungi
3 12	mRNA	Plasma
3 13	mRNA	Serum
3 14	mRNA	Buffy coat
3 15	mRNA	Sputum
3 16	mRNA	BAL
3 17	mRNA	Saliva
3 18	mRNA	Swab
3 19	mRNA	Urine
3 20	mRNA	Stool
3 21	mRNA	Cell free body fluid
3 22	mRNA	Pleural fluid
3 23	mRNA	CSF
3 24	mRNA	EPS
3 25	mRNA	Respiratory sample
3 26	mRNA	Amniotic fluid
3 27	mRNA	Forensic sample
3 28	mRNA	Bone marrow
3 29	mRNA	Bone
3 30	mRNA	Dried blood spot
3 31	mRNA	Soil
3 32	mRNA	Hair
3 33	mRNA	Cell supernatant

No.	Target	Sample source
4 01	viral DNA	Whole blood
4 02	viral DNA	Animal tissue
4 03	viral DNA	FFPE tissue
4 04	viral DNA	Plant tissue
4 05	viral DNA	Plant seed
4 06	viral DNA	Rice
4 07	viral DNA	Cultured cell
4 08	viral DNA	Gram (+) bacteria
4 09	viral DNA	Gram (-) bacteria
4 10	viral DNA	Yeast
4 11	viral DNA	Fungi
4 12	viral DNA	Plasma
4 13	viral DNA	Serum
4 14	viral DNA	Buffy coat
4 15	viral DNA	Sputum
4 16	viral DNA	BAL
4 17	viral DNA	Saliva
4 18	viral DNA	Swab
4 19	viral DNA	Urine
4 20	viral DNA	Stool
4 21	viral DNA	Cell free body fluid
4 22	viral DNA	Pleural fluid
4 23	viral DNA	CSF
4 24	viral DNA	EPS
4 25	viral DNA	Respiratory sample
4 26	viral DNA	Amniotic fluid
4 27	viral DNA	Forensic sample
4 28	viral DNA	Bone marrow
4 29	viral DNA	Bone
4 30	viral DNA	Dried blood spot
4 31	viral DNA	Soil
4 32	viral DNA	Hair
4 33	viral DNA	Cell supernatant

No.	Target	Sample source
5 01	viral RNA	Whole blood
5 02	viral RNA	Animal tissue
5 03	viral RNA	FFPE tissue
5 04	viral RNA	Plant tissue
5 05	viral RNA	Plant seed
5 06	viral RNA	Rice
5 07	viral RNA	Cultured cell
5 08	viral RNA	Gram (+) bacteria
5 09	viral RNA	Gram (–) bacteria
5 10	viral RNA	Yeast
5 11	viral RNA	Fungi
5 12	viral RNA	Plasma
5 13	viral RNA	Serum
5 14	viral RNA	Buffy coat
5 15	viral RNA	Sputum
5 16	viral RNA	BAL
5 17	viral RNA	Saliva
5 18	viral RNA	Swab
5 19	viral RNA	Urine
5 20	viral RNA	Stool
5 21	viral RNA	Cell free body fluid
5 22	viral RNA	Pleural fluid
5 23	viral RNA	CSF
5 24	viral RNA	EPS
5 25	viral RNA	Respiratory sample
5 26	viral RNA	Amniotic fluid
5 27	viral RNA	Forensic sample
5 28	viral RNA	Bone marrow
5 29	viral RNA	Bone
5 30	viral RNA	Dried blood spot
5 31	viral RNA	Soil
5 32	viral RNA	Hair
5 33	viral RNA	Cell supernatant

7 01	Plasmid DNA	<i>endA</i> (+) strain
7 02	Plasmid DNA	<i>endA</i> (–) strain

No.	Target	Sample source
6 01	viral DNA/RNA	Whole blood
6 02	viral DNA/RNA	Animal tissue
6 03	viral DNA/RNA	FFPE tissue
6 04	viral DNA/RNA	Plant tissue
6 05	viral DNA/RNA	Plant seed
6 06	viral DNA/RNA	Rice
6 07	viral DNA/RNA	Cultured cell
6 08	viral DNA/RNA	Gram (+) bacteria
6 09	viral DNA/RNA	Gram (–) bacteria
6 10	viral DNA/RNA	Yeast
6 11	viral DNA/RNA	Fungi
6 12	viral DNA/RNA	Plasma
6 13	viral DNA/RNA	Serum
6 14	viral DNA/RNA	Buffy coat
6 15	viral DNA/RNA	Sputum
6 16	viral DNA/RNA	BAL
6 17	viral DNA/RNA	Saliva
6 18	viral DNA/RNA	Swab
6 19	viral DNA/RNA	Urine
6 20	viral DNA/RNA	Stool
6 21	viral DNA/RNA	Cell free body fluid
6 22	viral DNA/RNA	Pleural fluid
6 23	viral DNA/RNA	CSF
6 24	viral DNA/RNA	EPS
6 25	viral DNA/RNA	Respiratory sample
6 26	viral DNA/RNA	Amniotic fluid
6 27	viral DNA/RNA	Forensic sample
6 28	viral DNA/RNA	Bone marrow
6 29	viral DNA/RNA	Bone
6 30	viral DNA/RNA	Dried blood spot
6 31	viral DNA/RNA	Soil
6 32	viral DNA/RNA	Hair
6 33	viral DNA/RNA	Cell supernatant

8 21	Fragment DNA	Gel slice
8 22	Fragment DNA	PCR product
8 23	Fragment DNA	Enzymatic reaction
9 01	Protein	His-Tag

TROUBLESHOOTING

This section describes the problems that may occur when the instrument is in use and the corresponding actions that should be taken. If the action listed does not solve the problem, or if the problem is not listed below, contact BIONEER Technical Support.

Problem	Action
The Power is not on	1. Make sure the power connector is connected. 2. Check if the system is connected to the adaptor. 3. Check if the system power is pushed. 4. If everything above has been followed but the power is not on, contact After Service.
The Power is on but the system cannot initiate	1. Press the power button to block the power. 2. Check if the power was turned off abnormally. 3. When the system power was shut off abnormally, check if there are any residues in tips and/or components in the system. 4. Remove any residues that may distract operating the system. 5. Manually move the syringe block of the interior desktop in the center. 6. Turn the power on and check whether the system is initiating. 7. Request for After Service.
LCD Screen is not on	1. It may be interior problem of the system, call for the After Service.
The system does not operate even RUN button is pressed	1. Check if the retainer bracket for transport has been removed. 2. Check if it is normally initialized when powering up. 3. Check if there are foreign objects or components that may hinder the operation. 4. Check if components are properly installed and attached. 5. Check if there is any other button is operating on the LCD screen. 6. Contact your local dealer for repair.
The system is running but does not operate correctly	1. Check if the base plate is placed correctly. 2. Check if there are remaining residues or any obstacles that may interrupt operating the system. 3. Check if all the components are inserted correctly. 4. Request for After Service.
The front door does not close	1. Check if the base plate is placed correctly. 2. After holding the door to open and when releasing the door to be closed, check if the door is closed automatically by the spring. 3. Request for After Service.
The base plate does not slide in completely	1. Check if there are any obstacles or residues that may interrupt moving the base plate. 2. Check if all the components are inserted correctly. 3. Request for After Service.
The system is not working even if the door is closed	1. Check if base plate is located in the correct. 2. Check if the pair of magnets attached to the door is correctly attached. 3. Check if the switch installed at the end of the base plate slide rail is damaged when base plate is pulled out. 4. Request for After Service.

Problem	Action
The base plate does not slide out completely	1. Check inside of the system if there are any obstacles or residues that may interrupt moving the base plate. 2. Check the front of the system if there are any obstacles or residues that may interrupt moving the base plate. 3. Request for After Service.
The components are not being able insert	1. Check if all the components are located in the right position. 2. Check if there are any residues in each component and the rack. 3. Check if any components and the rack's lock pins are bent or damaged. 4. Request for After Service.
During the operation, the syringe block does not pin down the tips	1. Check if the door is completely closed. 2. Check if the tip and the tip rack is inserted correctly. 3. While inserting the tips, check if any residues or components are stuck. 4. Check if 'Stop' or 'Pause' button is pressed. 5. Check if the provided tips are inserted. 6. Check if the tip is bent or damaged. 7. Request for After Service.
Syringe Block is correctly equipped with the tips, but it doesn't move	1. Make sure the front door is closed. 2. When the block is being moved, check if any residues or components are stuck. 3. Check if the cartridge is inserted correctly. 4. Check if 'Stop' or 'Pause' button is pressed. 5. Request for After Service.
It stops while operating	1. Check if the power supplied into the system. 2. Check if the Power switch has been pressed. 3. In the lower part of LCD screen, check if there is a delay in the blue progress bar. 4. Check if you have pressed 'Pause' by mistake. 5. Request for After Service.
The System is running but there is an error	1. Check if wrong protocol has been used. 2. Check if there is an error in the motor while operating during the movement of syringe block due to residues or components being stuck. 3. Check if it is operating after rerunning the same program. 4. Request for After Service.
The system is working but it does not do the elution	1. Check if Elution rack and tubes are inserted appropriately. 2. Check if the tips are inserted completely. 3. Check if the end of the tip is clogged. 4. Check if sample is inserted into the cartridge. 5. Check if there is any leakage in the syringe block. 6. Request for After Service.
There is a leakage in the syringe block	1. Stop using the well that were being used and request of after service.
The liquid is dripping in the bottom of the system	1. Check if the rack and the waste tray and other components are inserted in the right position. 2. Check if there is a leakage in the syringe block. 3. Request for After Service.

Problem	Action
The heater is not working	1. Check if the rack and the waste tray and other components are inserted in the right position. 2. Check if any solution is dripped in the base plate during the usage. 3. Request for After Service.
There is a burning smell in the system	1. Disconnect the power and unplug the power connector immediately. 2. Request for After Service.
UV Lamp does not work	1. Check if the door is closed completely. 2. Request for After Service.
The Sample Block does not maintain a cold temperature	1. Inspect the power supply. 2. Verify the Sample Block status through the LCD screen or PC software. 3. Request for After Service.
Protocol dose not update	1. Check if the computer and the instrument are connected with LAN cable. 2. Restart the computer and instrument. 3. Update protocol 4. Re-update protocol

TECHNICAL SUPPORT

Request for Repair

1. Before requesting a repair, please read “Troubleshooting” in this User Guide.
2. If the problem is not resolved, record any irregularities with the instrument and fill out the Repair Request Form (Appendix B).
3. Please send the completed Repair Request Form to our technical support department at (instrument-support@bioneer.com).

Sending the instrument for service

1. First, please inform your local distributor or us about the service you need.
2. Remove the source of contamination from the instrument.

CAUTION

If the interior or exterior of the instrument is contaminated by biohazardous materials, clean it with a commercially available decontaminant. Service may not be possible if contaminants in the instrument are not removed.

3. Ensure that the instrument is completely decontaminated. (Appendix A).
4. Pack the instrument using the packaging box provided when purchasing the instrument. Please do not send the power cables and other components.
5. Send the instrument to your local distributor or us, or hand it over to a sales representative.
6. Repair of the instrument will take approximately 1 to 3 weeks depending on the condition.

NOTE

If you do not submit the completed Repair Request Form, the instrument repair may be delayed as it will be responded to in the order received.

Notice

Report all serious incidents regarding the instrument to the manufacture.

REVISION HISTORY ABOUT THIS GUIDE

Version	Date	Description
3.0	December 2024	Update for – Change the name "Accessory" to "Components"

ORDERING INFORMATION

Instrument

Cat No.	Product
A-5030	<i>ExiPrep</i> TM 16 Plus

Components and Consumables

Cat No.	Product
A-5030-A	Components Set for <i>ExiPrep</i> TM 16 Plus (A2,3,4,6,7,10)
A-5030-A1	Multi Punch
A-5030-A2	Setup Tray Sample
A-5030-A3	Disposable Tip Rack
A-5030-A4	Elution Tube Rack
A-5030-A6	Waste Tray
A-5030-A7	6 Hole Punch
A-5030-A9	Adapter
A-5030-A10	Contamination Shield

Extraction Kit

Cat No.	Product
K-4471	<i>ExiPrep</i> TM Plus Viral DNA/RNA Kit
K-4472	<i>ExiPrep</i> TM Plus Viral DNA Kit
K-4473	<i>ExiPrep</i> TM Plus Viral RNA Kit
K-4474	<i>ExiPrep</i> TM Plus Blood Viral DNA Kit
K-4414	<i>ExiPrep</i> TM Plus Bacteria Genomic DNA Kit
K-4418	<i>ExiPrep</i> TM Plus Mycobacteria Genomic DNA Kit
K-4411	<i>ExiPrep</i> TM Plus Blood Genomic DNA Kit

Related Product

Cat No.	Product
A-2060-1	<i>Exicycler</i> TM 96
A-5150	<i>ExiPrep</i> TM 48 Dx
A-5250	<i>ExiPrep</i> TM 96 Lite

NOTE

For more information, please visit our website(www.bioneer.com).

LEGAL INFORMATION

Usage and Compatibility

The *ExiPrep*™16 Plus is the instrument capable of extracting nucleic acid needed in various samples as blood, serum, sputum and tissues for the gene amplification test. . It can assist in qualitative or quantitative analysis of specific DNA/RNA in a sample. Only kits manufactured by BIONEER are compatible with the *ExiPrep*™16 Plus.

Warranty and liability

Bioneer Corp. (hereinafter Bioneer) guarantees the quality of the product during the warranty period. Products found to be defective within the warranty period will be repaired or exchanged free of charge. However, the user must check whether the product is defective without delay when the product is delivered, and if a defect or lack of quantity is found, it must be notified immediately.

The following cases are not attributable to Bioneer, and therefore not covered under warranty, and the costs required for repair or exchange must be borne by the user: Malfunction caused by the user's carelessness and by not following the instructions in this User Guide, failure or damage caused by repairs performed by an entity other than Bioneer or a repair shop designated by Bioneer, normal wear and tear, or any defect caused by a natural disaster.

Patent

This product is protected by the following patents: [KR-1400675, US-9273306, JP-6001548, BR-112013012113-0]. Except as expressly stated on this product, other licenses are disclaimed.

Change

Bioneer holds all copyrights to this User Guide. Information on product specifications and services in this User Guide may be changed at any time without notice due to changes in government laws and guidelines, Bioneer's internal policies, or technical product improvements.

Inquiries

For solutions to technical problems related to the quality and use of this product, please contact Bioneer Technical Support (instrument-support@bioneer.com) with the relevant analysis information or related test data.

WARRANTY

All products manufactured and produced by Bioneer undergo rigorous quality control and inspection in compliance with ISO13485 regulations prior to shipment.

1. Warranty periods

- Components (consumables): 3 months
- Retention period of repair parts: 5 years from the discontinuation date of the model
- Period of maintenance service: 5 years from the discontinuation date of the model

2. Warranty details

- In the case of repair due to defects in our products within the warranty period, we provide free A/S in accordance with our quality guarantee terms and conditions and consumer damage compensation regulations.
- All components are consumables (based on the condition of the packaged official product).
- Actual expenses may be charged even within the warranty period in the following cases, and in unavoidable cases, A/S may not be possible even for a fee.
 - In case of malfunction due to negligence in use, impact, carelessness, or submersion
 - If the product is disassembled or modified for other purposes
 - In case of breakdown due to natural disasters such as fire, earthquake, flood, etc.
 - If the product was repaired by an entity other than our company
 - In the event that a product is not covered by the warranty or a service request falls outside the scope of the warranty.
- Matters not specifically stated in this clause shall be governed by Bioneer's A/S and customer support principles and internal regulations, and other matters shall be reviewed and processed with consideration for the user's convenience.
- The cost incurred during after-sales service is determined according to the standards of after-sales service for each item in our internal regulations. For further information on repair costs, please contact us.

3. Product exchange details

- Product exchange is carried out only when there is a valid reason to exchange the product based on the Fair Trade Act, consumer damage compensation regulations, and the authoritative interpretation of the consumer protection rights for the same or similar cases, and only 1:1 exchange with the same model is possible (No refund is available).
- Product to be exchanged: Product with the same symptoms within the warranty period and has a history of checking A/S more than three times

4. One moment! Before place a request service

- When the product does not operate normally, please first see the "TROUBLESHOOTING" page in the User Guide.
- If the problem is not resolved, please contact us in the following ways:
 - Customer Support Hotline: ☎ +82-42-939-6333
 - Technical Support Email: instrument-support@bioneer.com

KEY TO SYMBOLS

	Serial number
	Unique device identifier
	Consult instructions for use
	Temperature limits
	Humidity limits
	Do not discard as unclassified waste. To minimize the effect of electric or electronic instruments on the environment, follow the regulations on proper disposal of such items. European Union customers Call your local Europe office for Bioneer instruments pick-up and recycling.
	Manufacturer
	Date of Manufacture
	Catalog number
	Ignoring this sign and mishandling will result in death or serious injury
	Ignoring this sign and mishandling, will result in death or serious injury due to electric shock.
	Ignoring this sign and mishandling may result in death or serious injury.
	Ignoring this sign and mishandling may result in death or serious injury due to heat.
	Ignoring this sign and mishandling may result in death or serious injury due to fire.
	Ignoring this sign and mishandling may result in minor injury or property damage.
	Do not turn off the application during operation. It will affect the result.
	Do not run any other applications during operation. It will cause malfunction or affect the result.

	Keep a safe distance from the moving parts of the instrument. Moving parts may cause injuries.
	Biohazard Exposure may cause infection.
	Indicates relevant or helpful information about an instrument, however does not affect instrument operation.
	Keep away from sunlight
	Indicates the On position of the main power switch.
	Indicates the Off position of the main power switch.
	Indicates the on/off position of the main power switch.
	Indicates ground terminal for the main protective ground of the instrument.
	Indicates a terminal that receives or supplies alternating current or voltage.
	Indicates a terminal that receives or supplies direct current or voltage.

APPENDIX A: Certificate of Decontamination

Certificate of Decontamination					
The instrument must be decontaminated or disinfected before returning for service or disposal. This must be performed for the safety of the customer and the manufacturer.					
Instrument	<i>ExiPrep™16 Plus</i>	Catalog No.	A-5030	Serial No.	
Customer	Institution / Department				
	Address				
	Contact Person				
	Phone		Fax		
	E-mail				
Method of decontamination Dampen a lint-free cloth with 70% ethanol or nucleic acid degrading solution and clean all parts of the instrument that can be contaminated, including the components, the surface, etc. Then, wipe again with a cloth dampened with deionized water immediately. Repeat as many times as needed depending on the degree of contamination. Additional fees may be charged for the decontamination procedure before service if it has not been performed or this certificate is not provided. Check the following contents. ☐ The product for service or return is not contaminated by toxic, carcinogenic, radioactive, or any other harmful material. ☐ The decontamination procedure was performed for service or return and it will not be harmful to the handler of the instrument. Have you used any materials listed below? (Check all that apply) ☐ Chemical materials ☐ Biological materials ☐ Radioactive materials Additional Information (if any) Procedure taken for decontamination Date _____ Name/signature _____ If any radioactive material was used, a signature of the radiation safety manager is needed to certify the removal of radioactive contamination. Date _____ Name/signature _____					

APPENDIX B: Service Request Form

Service Request Form			
Product	ExiPrep™16 Plus		
Catalog No.	A-5030	Serial No.	
Date of Request			
Date of Purchase			
Problem	Date		
	Part		
	Description		
	Additional Information (if needed)		
Customer	Name of Institution		
	Address		
	Department		
	Contact Information	Name	
		Phone	Fax
		E-mail	

APPENDIX C: ExiPrep™16 Plus Maintenance Log

Month/Year	Serial No. EP16Plus–																Operator															
Days	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Description																																
Before Operation																																
Clean worktable																																
Clean waste tray																																
Clean elution tube rack																																
Clean hole puncher																																
Clean setup tray																																
Clean disposable tip rack																																
Clean contamination shield																																
After Operation																																
Check self test function																																
Clean base plate																																
Check UV light																																
Check exterior damages																																
Annually / As needed																																
Check base plate movement																																
Check internal instrument contamination																																
Check syringe leakage																																
Check heating block temperature																																
Check home position																																
Check grease of each motor shaft and moving parts																																

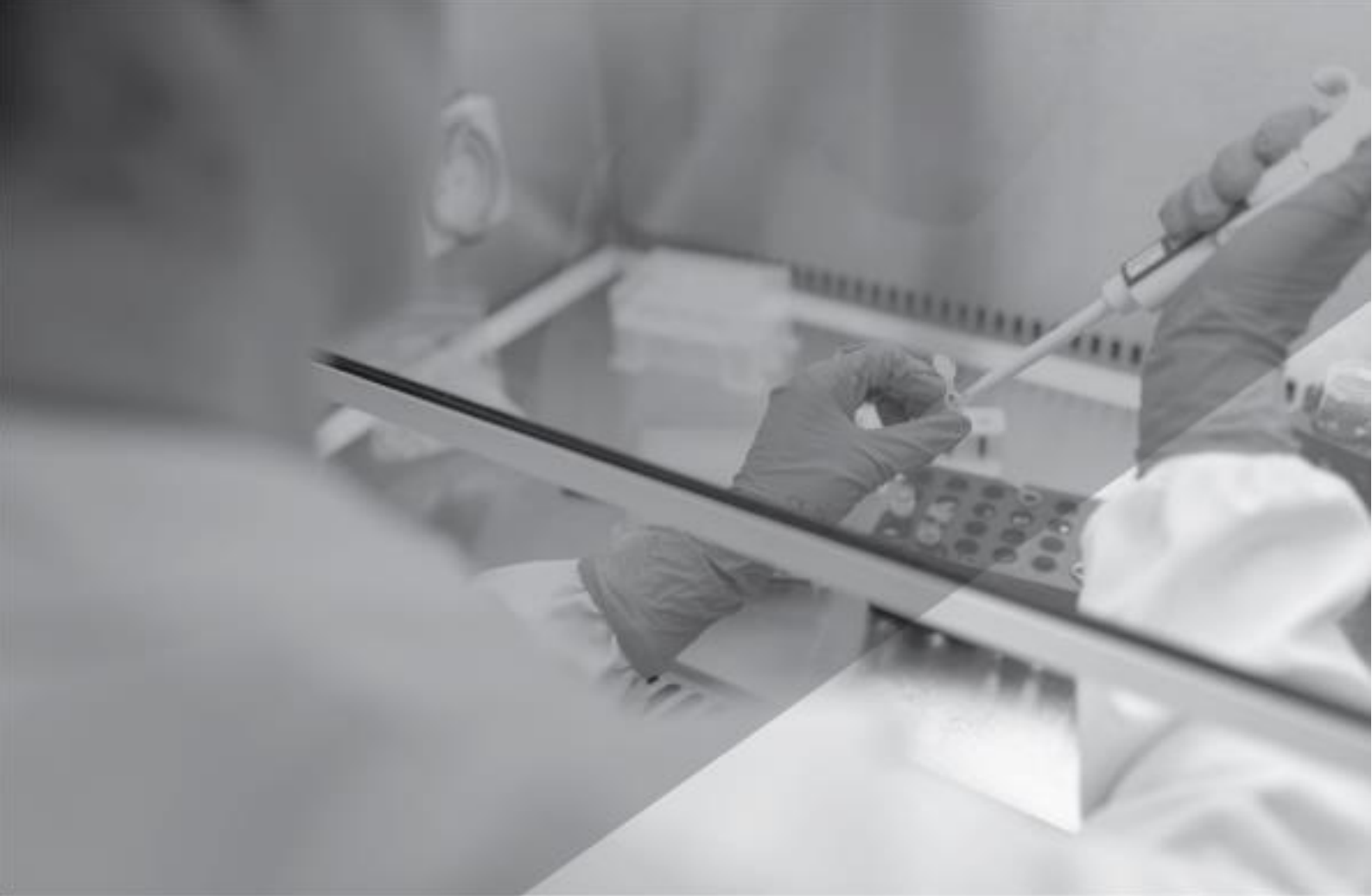
* Required Materials: Distilled Water, 70% Ethanol, 1% Bleach (or 2% Acetic Acid), Nucleic Acid Degradation Solution, Swab, Lint-Free Cloth/Paper Towel, Powder-Free Disposable Gloves



BIONEER Corporation

Address	Bioneer Global Center, 71, Techno 2-ro, Yuseong-gu, Daejeon, 34013, Republic of Korea
Telephone	+82-42-939-6333
Fax	+82-42-939-6444
E-mail	sales@bioneer.com
Website	www.bioneer.com

Information about our headquarters and branches can be found in the Customer Support section of our website.



BIONEER Corporation

Bioneer Global Center, 71, Techno 2-ro,
Yuseong-gu, Daejeon, 34013, Republic of Korea



A-5030

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